

CLAIMS

- 1 A method for producing a vaccine containing an immunogenic determinant, characterised in that it comprises the steps of:
 - a) subjecting cells infected with an intra-cellular bacterial, protozoan or parasitic pathogen to stress with heat or tumour necrosis factor; and
 - b) extracting the endogenous stress-induced products from the stressed cells; and
 - c) using the extracted products as the immunogenic determinant in the preparation of the vaccine composition.
- 15 2. A method as claimed in claim 1, characterised in that the active ingredient of the immunogenic determinant consists predominantly of one or more shock protein/antigenic peptide fragment complexes.
- 20 3. A method as claimed in either of claims 1 or 2, characterised in that the cells are infected by bacterial pathogens and the stress applied is heat.
4. A method as claimed in claim 3, characterised in that 25 the heat stress is achieved by heating to from 5 to 8° above the normal temperature of cultivation of the cells.
- 30 5. A method as claimed in claim 1, characterised in that the cells are infected by parasitic pathogens and the stress is induced by tumour necrosis factor.

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6. A method as claimed in any one of the preceding claims, characterised in that the cells have been modified to induce synthesis of stress proteins.
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7. A method as claimed in any of the preceding claims, characterised in that the application of stress to the cells is carried out in vitro.
- 10 8. A method according to claim 1 for producing a vaccine substantially as hereinbefore described in any one of the examples.
- 15 9. A vaccine composition containing an immunogenic determinant, characterised in that the immunogenic determinant comprises one or more complexes between a shock protein and an antigenic peptide fragment derived from the heat or tumour necrosis factor stressing of a cell infected with a bacterial, protozoal or parasitic intra-cellular pathogen.
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- 25 10. A vaccine composition containing an immunogenic determinant, characterised in that the immunogenic determinant is produced by a method as claimed in any one of claims 1 to 8.
- 30 11. A vaccine composition as claimed in either of claims 9 or 10, characterised in that the composition also contains an adjuvant for the immunogenic determinant.
12. A vaccine composition as claimed in any one of claims

9 to 11, characterised in that the composition is an aqueous composition.

13. A vaccine composition according to either of claims 9
5 or 10, substantially as hereinbefore described in any one of the Examples.
14. A method for treating an animal with a vaccine, characterised in that it comprises administering a
10 pharmaceutically acceptable quantity of a vaccine composition as claimed in any one of claims 9 to 13 sufficient to elicit an immune response in the animal.
- 15 15. A method as claimed in claim 15, characterised in that the vaccine composition is administered by injection.